WHAT IS CLAIMED IS:

1. A light source device, comprising:

a light-emitting tube including a light-emitting portion that generates a light beam by an electric discharge between electrodes, and a first and a second sealing portions provided on both sides of the light-emitting portion; and

a heat-conductive member attached on an outer surface of at least one of the sealing portions of the light-emitting tube, a first end of the heat-conductive member extending to a section near the light-emitting portion.

2. The light source device according to claim 1,

wherein the heat-conductive member is a cylindrical component.

3. The light source device according to claim 2,

wherein the light source device has a reflector that reflects a light beam irradiated by the light-emitting portion of the light-emitting tube,

wherein the first sealing portion of the light-emitting tube is disposed on the side of the reflector and is fixed to the reflector through the cylindrical heat-conductive member attached to the first sealing portion, and

wherein the first end of the heat-conductive member extends to the section near the light-emitting portion and a second end of the heat-conductive member opposite to the first end extends to the outside of the reflector with a heat-radiation fin being attached to the second end.

4. The light source device according to claim 3,

wherein a heat-conductive sub-reflection mirror opposing to the reflector is attached to the second sealing portion of the light-emitting tube, and

wherein a heat-conductive transparent member is attached to the outer surface of the sub-reflection mirror.

5. The light source device according to claim 2,

wherein an optical system to be illuminated is disposed on a light-irradiation side of the light source device,

wherein the light source device has a reflector that reflects a light beam irradiated by the light-emitting portion of the light-emitting tube,

wherein the first sealing portion of the light-emitting tube is disposed on the side of the reflector and is fixed to the reflector through the cylindrical heat-conductive member attached to the first sealing portion, and

wherein a following formula is valid, in which d1 denotes the diameter of the heat-conductive member attached to the first sealing portion, D1 denotes the diameter of the light-emitting portion of the light-emitting tube, T1 denotes the diameter of the first sealing portion, and θ1 denotes a minimum angle formed by the light beam irradiated by the light-emitting portion and reflected by the reflector to be used in the optical system and an extension line formed by extending the illumination optical axis of the optical system toward the light-emitting tube.

$$\sqrt{[(\frac{D1}{2})^2-(\frac{T1}{2})^2]}\times 2\times\tan\theta 1 \leqq d1 \leqq 10\times 2\times\tan\theta 1$$

6. The light source device according to claim 5,

wherein a heat-conductive sub-reflection mirror opposing to the reflector is attached to the second sealing portion of the light-emitting tube, and

a heat-conductive transparent member is attached to the outer surface of the sub-reflection mirror.

7. The light source device according to claim 2,

wherein an optical system to be illuminated is disposed on a light-irradiation side of the light source device,

wherein the light source device has a reflector that reflects a light beam irradiated by the light-emitting portion of the light-emitting tube,

wherein the first sealing portion of the light-emitting tube is fixed to the reflector and the cylindrical heat-conductive member is attached to the second sealing portion, and

wherein a following formula is valid, in which d2 denotes the diameter of the heat-conductive member attached to the second sealing portion, D1 denotes the diameter of the light-emitting portion of the light-emitting tube, T2 denotes the diameter of the second sealing portion, and θ2 denotes a minimum angle formed by the light irradiated by the light-emitting portion to be used in the optical system and an extension line formed by extending the illumination optical axis of the optical system toward the light-emitting tube.

$$\sqrt{[(\frac{D1}{2})^2-(\frac{T2}{2})^2]}\times 2\times(-\tan\theta 2)\leqq d2\leqq 10\times 2\times(-\tan\theta 2)$$

8. The light source device according to claim 7,

wherein a heat-conductive transparent member is attached to the outer surface of the cylindrical heat-conductive member attached to the second sealing portion of the light-emitting tube.

9. The light source device according to claim 1, further comprising:

a cooling device that cools the heat-conductive member;

a heating device that heats the heat-conductive member;

a temperature detector that detects the temperature of the light-emitting tube of the light source device; and

a drive controller that drives the heating device when the temperature detected by the temperature detector is a first predetermined temperature or lower and drives the cooling device when the temperature detected by the temperature detector is a second predetermined temperature or higher.

10. A light source device, comprising:

a light-emitting tube including a light-emitting portion that generates a light beam by an electric discharge between electrodes and a first and a second sealing portions provided on both sides of the light-emitting portion;

a first reflector that reflects the light beam irradiated by the light-emitting tube,

wherein the first sealing portion of the light-emitting tube is fixed to the first reflector and a heat-conductive sub-reflection mirror opposing to the first reflector is attached to the second sealing portion;

a heat-conductive transparent member attached to an outer surface of the sub-reflection mirror;

a cooling device that cools the transparent member; a heating device that heats the transparent member;

a temperature detector that detects the temperature of the light-emitting tube of the light source device;

and a drive controller that drives the heating device when the temperature detected by the temperature detector is a first predetermined temperature or lower and drives the cooling device when the temperature detected by the temperature detector is a second predetermined temperature or higher.

11. A projector, comprising:

a light source device having a light-emitting tube that includes a light-emitting portion that generates a light beam by an electric discharge between electrodes and sealing portions provided on both sides of the light-emitting portion and a heat-conductive member attached along the outer surface of at least one of the sealing portions, an end of the heat-conductive member being extended to a section near the light-emitting portion; and

an optical system disposed on a light-irradiation side of the light source device, the optical system including an optical modulator that modulates a light beam irradiated

by the light source in accordance with an input image information to form an optical image, and a color-combining optical device that combines each color light from the optical modulator.

12. The projector according to claim 11,

wherein the heat-conductive member is a cylindrical component.

13. The projector according to claim 12,

wherein the light source device has a reflector that reflects a light beam irradiated by the light-emitting portion of the light-emitting tube,

wherein the first sealing portion of the light-emitting tube is disposed on the side of the reflector and is fixed to the reflector through the cylindrical heat-conductive member attached to the first sealing portion, and

wherein the first end of the heat-conductive member extends to the section near the light-emitting portion and a second end of the heat-conductive member opposite to the first end extends to the outside of the reflector with a heat-radiation fin being attached to the second end.

14. The projector according to claim 13,

wherein a heat-conductive sub-reflection mirror opposing to the reflector is attached to the second sealing portion of the light-emitting tube, and

wherein a heat-conductive transparent member is attached to the outer surface of the sub-reflection mirror.

15. The projector according to claim 12,

wherein the light source device has a reflector that reflects a light beam irradiated by the light-emitting portion of the light-emitting tube,

wherein the first sealing portion of the light-emitting tube is disposed on the side of the reflector and is fixed to the reflector through the cylindrical heat-conductive

member attached to the first sealing portion, and

wherein a following formula is valid, in which d1 denotes the diameter of the heat-conductive member attached to the first sealing portion, D1 denotes the diameter of the light-emitting portion of the light-emitting tube, T1 denotes the diameter of the first sealing portion, and θ1 denotes a minimum angle formed by the light beam irradiated by the light-emitting portion and reflected by the reflector to be used in the optical system and an extension line formed by extending the illumination optical axis of the optical system toward the light-emitting tube.

$$\sqrt{[(\frac{D1}{2})^2-(\frac{T1}{2})^2]}\times 2\times\tan\theta 1 \leqq d1 \leqq 10\times 2\times\tan\theta 1$$

16. The projector according to claim 15,

wherein a heat-conductive sub-reflection mirror opposing to the reflector is attached to the second sealing portion of the light-emitting tube, and

wherein a heat-conductive transparent member is attached to the outer surface of the sub-reflection mirror.

17. The projector according to claim 12,

wherein the light source device has a reflector that reflects a light beam irradiated by the light-emitting portion of the light-emitting tube,

wherein the first sealing portion of the light-emitting tube is fixed to the reflector and the cylindrical heat-conductive member is attached to the second sealing portion, and

wherein a following formula is valid, in which d2 denotes the diameter of the heat-conductive member attached to the second sealing portion, D1 denotes the diameter of the light-emitting portion of the light-emitting tube, T2 denotes the diameter of the second sealing portion, and θ2 denotes a minimum angle formed by the light irradiated by the light-emitting portion to be used in the optical system and an extension line formed by extending the illumination optical axis of the optical system toward the light-emitting

tube.

$$\sqrt{[(\frac{D1}{2})^2-(\frac{T2}{2})^2]}\times 2\times(-\tan\theta 2)\leqq d2\leqq 10\times 2\times(-\tan\theta 2)$$

18. The projector according to claim 17,

wherein a heat-conductive transparent member is attached to the outer surface of the cylindrical heat-conductive member attached to the second sealing portion of the light-emitting tube.

19. The projector according to claim 11, further comprising:

a cooling device that cools the heat-conductive member;

a heating device that heats the heat-conductive member;

a temperature detector that detects the temperature of the light-emitting tube of the light source device; and

a drive controller that drives the heating device when the temperature detected by the temperature detector is a first predetermined temperature or lower and drives the cooling device when the temperature detected by the temperature detector is a second predetermined temperature or higher.

20. A projector, comprising:

a light source device having a light-emitting tube including a light-emitting portion that generates a light beam by an electric discharge between electrodes and a first and a second sealing portions provided on both sides of the light-emitting portion and a first reflector that reflects the light beam irradiated by the light-emitting tube;

an optical system disposed on a light-irradiation side of the light source device,

wherein the first sealing portion of the light-emitting tube is fixed to the first reflector and a heat-conductive sub-reflection mirror opposing to the first reflector is attached to the second sealing portion;

a heat-conductive transparent member attached to an outer surface of the sub-reflection mirror;

a cooling device that cools the transparent member;

a heating device that heats the transparent member;

a temperature detector that detects the temperature of the light-emitting tube of the light source device;

and a drive controller that drives the heating device when the temperature detected by the temperature detector is a first predetermined temperature or lower and drives the cooling device when the temperature detected by the temperature detector is a second predetermined temperature or higher.